

## REMARKS

Claims 8-13 are pending. The Applicants respectfully request the Examiner to reconsider the rejections in view of amendments to the claims now presented and the following remarks:

### **Objections to the Drawings, Specification and Claim.**

The Examiner has objected to FIGURES 1-3 because they refer to “19”. Particularly, it is alleged that no such references occur in the specification. The Applicants respectfully point out, however, that this item is in fact described at page 16, line 27 of the specification.

The Applicants now address the Examiner’s objections by presenting amendments to the specification and drawings wherein the lines are now unambiguously referred to as items 100-112. The Applicants have further amended Claim 10 per the recommendation of the Examiner.

In view of these remarks and amendments to the specification, drawings, and claim 10, the Applicants respectfully request the Examiner to withdraw all objections.

### **Claim Rejections under 35 USC §103(a)**

**A showing of a suggestion, teaching, or motivation to combine the prior art references is a necessary component of an obviousness holding.**<sup>2</sup> The Applicants respectfully acknowledge the Examiner’s recited position that “a conclusion of obviousness may be made from common knowledge and common sense of a person of ordinary skill without any specific hint or suggestion in a particular reference”; however, the interpretation of the statute (35 USC §103) by the U.S. Supreme Court and the Federal Circuit has changed significantly since the 1969 In re Bozek CAFC decision cited by the Examiner. Particularly, it is now well settled that **the level of skill in the art cannot be relied upon to provide the suggestion to combine references.** Al-Site Corp. v. VSI Int’l Inc., 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999). The issue is whether one of ordinary skill in the art would have combined the references into a single embodiment. Richardson-Vicks, 22 F.3d 1476, 44 USPQ2d 1181 (Fed. Cir. 1997). Factual issues as outlined by the Supreme Court in Graham v. John Deere Co. These so-called

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<sup>2</sup> The factual inquiry whether to combine references must be thorough and searching. McGinley v. Franklin Sports, Inc., 262 F.3d 1339, 1351-52, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001). This precedent has been reinforced in myriad decisions, and cannot be dispensed with. Brown & Williamson Tobacco Corp. v. Philip Morris Inc., 229 F.3d 1120, 1124-25, 56 USPQ2d 1456, 1459 (Fed. Cir. 2000).

Graham factors include: (1) the scope and content of the prior art; (2) the differences between the claimed invention and the prior art; (3) the level of ordinary skill in the art; and (4) certain secondary considerations such as long-felt but unresolved need and unexpected results.

The scope of the prior art includes art that is “reasonably pertinent to the particular problem with which the invention was involved.” Stratoflex, Inc. v. Aeroquip Corp., 713 F.2d 1530, 1535, 218 USPQ 871, 876 (Fed. Cir. 1983). The disclosure of Oswalt, *et al.*, ‘998, however, is entirely unrelated to the production of acrylic acid or acrolein or the gasification of liquefied propylene and/or propane. The ‘998 disclosure is a conventional mechanical refrigerating system for cooling manufacturing equipment. **Since the ‘998 disclosure is entirely unrelated to the subject matter of the present invention -or- the nature of the problem to be solved by the current invention, motivation to combine the elements of Oswalt, *et al.*, ‘998 with the prior art described by the Applicants is non-existent.** Oswalt, *et al.*, ‘998 does not address the problems solved by the present invention. Moreover, if the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984); MPEP §2143.01.

The invention now defined by claims 8 *et seq* requires the essential feature that an apparatus comprising an evaporator for gasifying liquefied propylene and/or propane, wherein a liquid coolant is supplied to the evaporator, in contrast to the prior art. Before the invention, steam was supplied to an evaporator in order to gasify propylene and/or propane. This method, however, is at a disadvantage in suffering even a slight fluctuation of the steam pressure or the amount of supplied steam to render the vapor pressure and the dryness of the propylene gas unstable because the energy of steam is high. Specification, page 3, lines 26-30. As a result of using steam the composition of the reactant gas supplied to a reactor for a catalytic gas phase oxidation is caused to vary. Accordingly, the stability of the reaction itself is sacrificed. Further, polymerization and clogging is prevalent inside the column owing to the change in the concentration of the acrylic acid in the gas supplied to the acrylic acid absorbing column. The efficiency of absorption as a result is significantly reduced. See page 3, line 19 to page 7, line 15 in the specification. The present invention was developed to solve these problems by using a liquid coolant instead of steam, consequently the gasification itself and the whole reaction system, *inter alia*, is stabilized. The current invention confers improved absorption and

prevention of polymerization. Furthermore, the coolant is chilled by recovering latent heat of the liquefied propylene and/or propane and used for cooling in a heat exchanger consisting of the apparatus, which raises heat efficiency.

Oswalt, *et al.*, set forth by the Examiner discloses a mechanically refrigerated chiller system for a process coolant having a process coolant circuit which includes a coolant reservoir with refrigerant evaporator coils in it. The disclosure is not remotely related to the present invention. As acknowledged by the Examiner, the '998 disclosure does not disclose that a liquid coolant can be supplied to the evaporator, chilled there to prepare a chilled coolant, and used in said heat exchangers in the apparatus and later re-circulated back to the evaporator. There is no description of an apparatus which a liquid coolant is supplied to evaporator for gasifying liquefied propylene and/or propane, chilled there to prepare a chilled coolant, the chilled coolant is used in a heat exchanger therein and later re-circulated back to the evaporator.

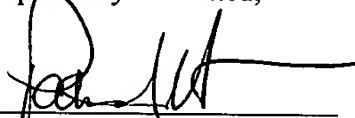
The Applicants respectfully request the Examiner to withdraw the rejections under 35 USC §103(a).

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For all the foregoing reasons, the Applicants submit that Claims 8-13 are in condition for allowance. Early action toward this end is courteously solicited. *The Examiner is kindly encouraged to telephone the undersigned in order to expedite any detail of the prosecution.*

The Commissioner is authorized to charge any deficiency or credit any overpayment in connection herewith to Deposit Account No. 13-2165.

Respectfully submitted,



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